

IN THE CLAIMS:

This listing of the claims will replace all prior versions and listings of the claims in the application:

1. (Currently Amended) A method for reducing intersymbol interference in a telecommunications system, comprising:
specifying an initial shaping filter;
determining a level of intersymbol interference for a final shaping filter where said final shaping filter is obtained by further processing said initial shaping filter, including generating a data sequence for modeling channel noise; and
updating final shaping filter coefficients at optimal sampling points iteratively until the intersymbol interference is at or below a desired level.
2. (Original) A method in accordance with claim 1, wherein said optimal sampling points are at a sampling period.
3. (Original) A method in accordance with claim 2, wherein said initial shaping filter is obtained by performing a convolution on a given filter, with certain spectral and time domain characteristics, with its matched complex counterpart.
4. (Currently Amended) A method, comprising:
specifying a given filter with certain time domain and spectral characteristics,
obtaining a matched filter counterpart of said given filter;
performing a convolution between said given filter and said matched filter to obtain an initial shaping filter;
generating a data sequence, said data sequence comprising a channel noise model;
convolving said data sequence with said given filter; and

deriving an optimized shaping filter responsive to said convolving by adaptively minimizing an error metric at points on said initial shaping filter corresponding to optimal sampling points thus producing a signal with minimal ISI period.

5. (Original) A method in accordance with claim 4, said error metric comprising a least mean squares error metric.

6. (Currently Amended) A telecommunications device, comprising:
a coder for encoding data;
an RF modulator; and
a shaping filter for shaping said coded data ~~and interposed between said coder and RF modulator~~, the shaping filter generated by constraining the filter coefficients in their adaptation at the optimal sampling point and not constraining them at the non-sampling points, an initial shaping filter comprising a channel noise model shaping filter for minimizing intersymbol interference.

7. (Original) A telecommunications device in accordance with claim 6, said shaping filter derived from a convolution between a filter and its corresponding matched filter.

8. (Original) A telecommunications device as recited in claim 7, wherein said constraining is iteratively performed until an error metric reaches a steady state minimum level.

9. (Original) A telecommunications device as recited in claim 8, wherein said constraining is iteratively performed until an error metric reaches a predetermined threshold level.

10. (Currently Amended) A method, comprising:
- specifying an initial filter;
 - first convolving said initial filter with its complex conjugate to obtain an initial shaping filter;
 - second convolving said initial filter with a data sequence, said data sequence comprising a channel noise model; and
 - deriving, responsive to said first and second convolving, a shaping filter by minimizing an error metric at points on said initial shaping filter corresponding to an upsampling period.
11. (Original) A method as recited in claim 10, wherein said deriving comprises constraining the filter coefficients in their adaptation at the optimal sampling point and not constraining them at the non-sampling points.